

CLAIMS

1. A method of treating a liquid bath (5) containing at least 70 mol% oxygen collected in the bottom of a cryogenic distillation column (1) or column element (3) forming part of a system of columns that is used for the separation of air, in which said liquid bath (5) is continuously boiled by means of at least a first reboiler (6, 21, 22, 23) made of aluminum, a portion of said oxygen-rich liquid bath (5) is purged so as to prevent an excessive build-up of inflammable impurities in said bath (5), said purged portion is sent into at least a second reboiler (13, 24), the oxygen boiled by said second reboiler is sent back into said cryogenic distillation column (1) and a portion of the oxygen-rich liquid bath (5', 12) treated by said second reboiler (13, 24) is purged, characterized in that the second reboiler is, by its construction and/or its material, less inflammable than the first reboiler.
2. The method as claimed in claim 1, characterized in that said purged portion sent into said second reboiler (13, 24) represents at least 0.5 mol% of the total air stream feeding the system of distillation columns.
3. The method as claimed in claim 2, characterized in that said purged portion sent into said second reboiler (13, 24) represents at least 10 mol%, preferably at least 20 mol%, of the total air stream feeding the system of distillation columns.
4. The method as claimed in one of claims 1 to 3, characterized in that oxygen-rich liquid (5', 12) treated by said second reboiler (13, 24) is purged as a stream equal to at most 1% of the total air stream feeding the system of distillation columns.

5. The method as claimed in claim 4, characterized in that oxygen-rich liquid (5', 12) treated by said second reboiler (13, 24) is purged as a stream equal to at most 0.2% of the total air stream feeding said distillation column.

6. A cryogenic distillation column (1) or column element (3), in the sump of which at least a first aluminum reboiler (6, 21, 22, 23) for treating an oxygen-rich liquid bath (5) is placed, comprising purge means (9, 18) for taking a portion of said bath (5) into at least a second reboiler (13, 24), means (16) for sending the oxygen vaporized by said second reboiler (13, 24) back into said column (1), and means (17, 25) for purging a portion of said bath (5', 12) sent into said second reboiler, characterized in that the second reboiler is by its construction and/or its material less inflammable than the first reboiler.

7. The cryogenic distillation column (1) or column element (3) as claimed in claim 6, characterized in that said at least second reboiler (13) is placed in the bottom of a heat exchanger (10) placed outside said column (1).

8. The cryogenic distillation column (1) or column element (3) as claimed in claim 6, characterized in that it includes a partition (18) that divides its sump into a first compartment (19) and a second compartment (20), in that said at least first reboiler (21, 22, 23) is placed in the first compartment (19), in that said at least second reboiler (24) is placed in the second compartment (20) and in that said partition (18) has a height (H) such that it allows the second compartment (20) to be fed with oxygen-rich liquid (5) coming from the first compartment (19) by overflow.

9. The cryogenic distillation column (1) or column element (3) as claimed in claim 8, characterized in

that it includes means for measuring the level of oxygen-enriched liquid (5, 5') present in the compartments (19, 20) defined by the partition (18).

- 5 10. An air distillation unit comprising a cryogenic
distillation column (3) as claimed in claim 6, 7, 8 or
9, characterized in that the column, in the sump of
which the first reboiler (6) is placed, is the low-
pressure column (3) of a double column (1) comprising a
10 medium-pressure column (2) and the low-pressure column,
these columns being thermally coupled to each other by
means of the first reboiler, and comprising means for
sending a nitrogen-enriched gas (14) from the medium-
pressure column to the first reboiler and optionally to
15 the second reboiler (13) in order to warm it (them).